

habit, has long tapering, often forked receptacles. The receptacles of *A. nodosum*, fa. *scorpioides*, on the other hand, are more or less oval, essentially similar to those of the type. The plants occupied their typical salt marsh habitat, associated with *A. nodosum* but easily distinguishable by their slender, tangled, subcylindrical branches and reduced bladders. The fruit suffered less reduction than the vegetative portion, and thus appeared by contrast very large. The receptacles were from oval to spatulate, yellowish, mostly simple, occasionally forked, on slender stalks. The fruiting portion was 0.4–1.6 cm. long, 0.2–0.7 cm. wide. The stalks were up to 2.5 cm. long, usually about 1.5 times the length of the fruiting portion. Only female receptacles were observed (FIG. 1).

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 ON THE NAME OF THE OAK FERN¹

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THE common Oak Fern of Europe and North America was originally described as *Polypodium Dryopteris* L. In order to avoid the tautonym *Dryopteris Dryopteris* in listing the species of *Dryopteris* for the Index Filicum, Christensen proposed the new name *Dryopteris Linnaeana*, which has since been generally accepted. It is the purpose of this paper to point out an earlier specific name, which must be applied to this fern.

The first such proposed is *Filix pumila* Gilib. (1792), but this is a *nomen abortivum*, since the Linnaean name *Polypodium Dryopteris* was cited in synonymy. It is, therefore, illegitimate

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by Article 60 (1) of the International Rules of Botanical Nomenclature. *Polypodium pulchellum* Salisb. (1796) also was superfluous when published, and comes in the same category, as does *Polypodium triangulare* Dulac (1867).

There is, however, a legitimate name in *Polypodium disjunctum* Rupr., which was not proposed as a change of name for the Linnaean species, but as a segregate. It was originally proposed as a subspecies, but in the invalid form *Polypodium Dryopteris* γ *P. disjunctum*, a binary nomenclature for subspecies prohibited by Article 28. However, the name was later taken up as a valid species by Schur in 1858, and the species must date from his publication. The relevant synonymy is as follows:

Dryopteris disjuncta (Rupr.) Morton, comb. nov.—*Polypodium Dryopteris* L. Sp. Pl. 1093. 1753. *Filix pumila* Gilib. Exer. Phyt. 2: 558. 1792 (nom. abort.). *Polypodium pulchellum* Salisb. Prod. 403. 1796 (nom. abort.). “*Polypodium Dryopteris* γ *P. disjunctum*” Rupr. Distr. Cr. Vasc. Ross. 52. 1845. *Gymnocarpium Dryopteris* Newm. Phytol. 4. App. XXIV. 1851. *Polypodium Dryopteris* var. *disjunctum* Ledeb. Fl. Ross. 4: 509. 1853. *Polypodium disjunctum* Rupr. ex Schur, Oestr. Bot. Zeit. 8: 193. 1858; Enum. Pl. Trans. 831. 1866. *Polypodium triangulare* Dulac, Fl. Hautes Pyrenees 31. 1867 (nom. abort.). *Phegopteris Dryopteris* subsp. *disjuncta* Trel. in Harrim. Alaska Exp. 5: 382. 1904. *Dryopteris Linnaeana* C. Chr. Ind. Fil. 275. 1905. *Dryopteris pulchella* Hayek, Fl. Steierm. 39. 1908. *Dryopteris triangularis* Herter, Bull. Boiss. II. 8: 797. 1908. *Dryopteris Dryopteris* Christ, Bull. Acad. Geogr. Bot. 20¹: 151. 1909. *Dryopteris Linnaeana* var. *disjuncta* Fomin, Fl. Siberia 79. 1930. *Gymnocarpium Dryopteris* var. *disjunctum* Ching, Contr. Biol. Lab. Sci. Soc. China 9: 41. 1933.

The name *disjuncta* was based on specimens from Sitka, Alaska, and refers to certain large, lax forms that are essentially tripinnate, with the lower tertiary pinnules somewhat spaced out. Such forms occur in Idaho, British Columbia, and Alaska, and doubtless in Siberia and elsewhere. They do not seem to be worth nomenclatural recognition, which is fortunate, since such a course would necessitate applying a varietal name to the common widely distributed form. The recently proposed *f. glandulosa* Tryon, distinguished by having a glandular rhachis, is not well founded, since a few such glands are found on almost all European specimens.

There is a good deal of disagreement as to the proper generic disposition of this species. Ching has attempted to show that it represents a distinct generic type, *Gymnocarpium* Newm. In this treatment he has recently been followed by Christensen in the Manual of Pteridology. The points mentioned by Ching are as follows:

(1) *Rhizome wide-creeping, with a simple dictyostele, the leaf traces two, uniting only toward the tip of the blade. Dryopteris Thelypteris* and many other species have a wide-creeping rhizome and have also the same stelar structure, except that the leaf traces unite at the base of the blade. This difference is slight and is certainly not of generic importance, even if always true, which must be considered very doubtful in view of the fact that the stelar structure of most of the hundreds of species of *Dryopteris* subgenus *Lastrea* has not yet been investigated.

(2) *Lamina thin-herbaceous, green, pentangular, glabrous, "bent at the joint to the apex of the long slender stipe."* It is true that *Dryopteris disjuncta* has a very thin blade, but not more so than *Dryopteris noveboracensis*, *D. simulata*, *D. nevadensis*, and many other species of the subgenus *Lastrea*. Moreover, *D. Robertiana*, included in *Gymnocarpium* by Ching, has a noticeably thicker blade. *Dryopteris disjuncta* is rather distinctive in having a pentagonal blade, but *D. oyamensis*, which also is referred to *Gymnocarpium* by Ching, has a blade very much more like that of *D. Phegopteris* in outline. Thus, the only point left is the articulation of the lower pinnae. This is a true distinction, but I can not regard it as of generic importance.

(3) *Venation neither anadromous nor catadromous, but basal pinnules of the pinnae opposite.* This is an erroneous observation. Frequently they are opposite, but just as often they are anadromous. In any case, anadromous and catadromous venation both occur in *Dryopteris*.

(4) *Sori exindusiate, roundish in outline, and dorsal on the veins.* In *Dryopteris* as a whole the sori are always dorsal on the veins, and are typically round. There are many exindusiate species in tropical America belonging to several subgenera, e. g., *Stigmatopteris*, *Goniopteris*, *Meniscium*, *Ctenitis*, and *Lastrea*.

(5). *Spores bilateral, warty, and without perispore.* The spores of *Dryopteris*, with over 1000 existing species, have been insufficiently investigated to justify the implied distinction.

It is thus apparent that the genus *Gymnocarpium* can not be recognized unless one is willing to split up *Dryopteris* into many small genera, a course which has little to recommend it to botanists who have worked with the genus as a whole.

The genus *Phegopteris* as currently recognized is even more artificial than *Gymnocarpium*, including as it does both *Dryopteris Phegopteris* and *D. disjuncta*, which really are not closely allied. The characters supposed to distinguish *Phegopteris*, namely the creeping rhizome and the exindusiate sori, are found in many unrelated species of *Dryopteris*. Incidentally it may be mentioned that the name *Phegopteris polypodioides* Fée used by Gray's Manual, 7th ed., Wherry, and Broun, is not the oldest available name for the Beech Fern. Under *Phegopteris* the correct name would be *Phegopteris connectilis* (Michx.) Watt, based on *Polypodium connectile* Michx. (1803).

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GRASS STUDIES. IV. ADDITIONAL SPECIES NEW TO ARKANSAS.¹—In connection with a current survey of the grasses of Arkansas, material of several species has been collected that appear to be heretofore unreported for the state. Notes pertaining to these collections are here briefly presented, indicating the locality where these have been found.

ANDROPOGON ELLIOTTII Chapm. Harrison, Boone County, January 20, 1938, *Nielsen*. One mile south of Mt. Gaylor, Crawford County, November 30, 1937, *Nielsen*, no. 5340. One mile south of Canfield, Lafayette County, November 11, 1937, *Nielsen*, no. 5291. Combs, Madison County, January 6, 1938, *Nielsen*, no. 5341. Resettlement Area, 14 miles west of Fayetteville, Washington County, March 20, 1938, *Nielsen*, no. 5345. Another specimen was taken in Oklahoma from between Heaven, Oklahoma, and the Arkansas boundary on November 12, 1937, *Nielsen*, no. 5288.

DESCHAMPSIA FLEXUOSA (L.) Trin. Cameron Bluff, Mt. Magazine, Logan County, May 28, 1939, *Younge and Nielsen*, no. 5947.

Although this species was locally abundant on Cameron Bluff, it was not observed on the several other west-facing escarpments of this mountain.

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